

## Equation of State Calculations

Reference: [osti.gov/servlets/purl/4390578/](https://www.osti.gov/servlets/purl/4390578/)

```
K = 2.5
nu = 2
N(1/2) = 7567
C0 = 1.83844
A0 = 0.959055    1 / A0 = 1.04269
A(3, 3) = 1296.75
A(4, 4) = 972.862
A(4, 5) = 1216.56
A(4, 6) = 1458.18
A(5, 5) = 614.688
A(5, 6') = 622.935
A(5, 6'') = 620.295
A(5, 7') = 934.854
A(5, 7'') = 1087.86
A(5, 7''') = 1095.02
A(5, 8') = 1248.21
A(5, 8'') = 1402.42
A(5, 9) = 1554.41
A(5, 10) = 1550.01
C(1) = 1.8138
C(2) = 2.66535
C(3) = 3.89396
C(4) = 0.589745
X(3) = 9.12498
```

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```
K = 2
nu = 4
N(1/2) = 7567
C0 = 3.21726
A0 = 0.869892    1 / A0 = 1.14957
A(3, 3) = 1296.75
A(4, 4) = 972.862
A(4, 5) = 1216.56
A(4, 6) = 1458.18
A(5, 5) = 614.688
A(5, 6') = 622.935
A(5, 6'') = 620.295
A(5, 7') = 934.854
A(5, 7'') = 1087.86
```

```

A(5, 7'') = 1095.02
A(5, 8') = 1248.21
A(5, 8'') = 1402.42
A(5, 9) = 1554.41
A(5, 10) = 1550.01
C(1) = 1.8138
C(2) = 2.66535
C(3) = 3.89396
C(4) = 0.589745
X(3) = 7.49563

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```

K = 1.5
nu = 5
N(1/2) = 7567
C0 = 7.72143
A0 = 0.757772    1 / A0 = 1.31966
A(3, 3) = 1296.75
A(4, 4) = 972.862
A(4, 5) = 1216.56
A(4, 6) = 1458.18
A(5, 5) = 614.688
A(5, 6') = 622.935
A(5, 6'') = 620.295
A(5, 7') = 934.854
A(5, 7'') = 1087.86
A(5, 7''') = 1095.02
A(5, 8') = 1248.21
A(5, 8'') = 1402.42
A(5, 9) = 1554.41
A(5, 10) = 1550.01
C(1) = 1.8138
C(2) = 2.66535
C(3) = 3.89396
C(4) = 0.589745
X(3) = 5.79376

```

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Press any key to close this window . . .

```

K = 1.4
nu = 5.5
N(1/2) = 7567

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C0 = 10.0539
A0 = 0.670746    1 / A0 = 1.49088
A(3, 3)      = 1296.75
A(4, 4)      = 972.862
A(4, 5)      = 1216.56
A(4, 6)      = 1458.18
A(5, 5)      = 614.688
A(5, 6')     = 622.935
A(5, 6'' )   = 620.295
A(5, 7')     = 934.854
A(5, 7'' )   = 1087.86
A(5, 7''' )  = 1095.02
A(5, 8')     = 1248.21
A(5, 8'' )   = 1402.42
A(5, 9)      = 1554.41
A(5, 10)     = 1550.01
C(1) = 1.8138
C(2) = 2.66535
C(3) = 3.89396
C(4) = 0.589745
X(3) = 4.71018

```

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```

K = 1.25
nu = 6
N(1/2) = 7567
C0 = 17.1587
A0 = 0.556731    1 / A0 = 1.7962
A(3, 3)      = 1296.75
A(4, 4)      = 972.862
A(4, 5)      = 1216.56
A(4, 6)      = 1458.18
A(5, 5)      = 614.688
A(5, 6')     = 622.935
A(5, 6'' )   = 620.295
A(5, 7')     = 934.854
A(5, 7'' )   = 1087.86
A(5, 7''' )  = 1095.02
A(5, 8')     = 1248.21
A(5, 8'' )   = 1402.42
A(5, 9)      = 1554.41
A(5, 10)     = 1550.01
C(1) = 1.8138
C(2) = 2.66535

```

C(3) = 3.89396  
C(4) = 0.589745  
X(3) = 3.56451

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K = 1.2  
nu = 6.25  
N(1/2) = 7567  
C0 = 21.9359  
A0 = 0.48872      1 / A0 = 2.04616  
A(3, 3) = 1296.75  
A(4, 4) = 972.862  
A(4, 5) = 1216.56  
A(4, 6) = 1458.18  
A(5, 5) = 614.688  
A(5, 6') = 622.935  
A(5, 6'') = 620.295  
A(5, 7') = 934.854  
A(5, 7'') = 1087.86  
A(5, 7''') = 1095.02  
A(5, 8') = 1248.21  
A(5, 8'') = 1402.42  
A(5, 9) = 1554.41  
A(5, 10) = 1550.01  
C(1) = 1.8138  
C(2) = 2.66535  
C(3) = 3.89396  
C(4) = 0.589745  
X(3) = 3.01124

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K = 1.15  
nu = 6.5  
N(1/2) = 7567  
C0 = 29.928  
A0 = 0.413607      1 / A0 = 2.41775  
A(3, 3) = 1296.75  
A(4, 4) = 972.862  
A(4, 5) = 1216.56  
A(4, 6) = 1458.18  
A(5, 5) = 614.688

```

A(5, 6')    = 622.935
A(5, 6'' )  = 620.295
A(5, 7')    = 934.854
A(5, 7'' )  = 1087.86
A(5, 7''' ) = 1095.02
A(5, 8')    = 1248.21
A(5, 8'' )  = 1402.42
A(5, 9)     = 1554.41
A(5, 10)    = 1550.01
C(1) = 1.8138
C(2) = 2.66535
C(3) = 3.89396
C(4) = 0.589745
X(3) = 2.49894

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```

```

K  = 1.05
nu = 7
N(1/2) = 7567
C0 = 94.1638
A0 = 0.247436    1 / A0 = 4.04145
A(3, 3)    = 1265.61
A(4, 4)    = 948.47
A(4, 5)    = 1186.56
A(4, 6)    = 1421.37
A(5, 5)    = 598.66
A(5, 6')   = 607.353
A(5, 6'' ) = 604.929
A(5, 7')   = 911.131
A(5, 7'' ) = 1060.5
A(5, 7''' ) = 1068.56
A(5, 8')   = 1216.35
A(5, 8'' ) = 1367.95
A(5, 9)    = 1517.86
A(5, 10)   = 1511.34
C(1) = 1.8138
C(2) = 2.73029
C(3) = 3.9865
C(4) = 0.604489
X(3) = 1.67862

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C:\Users\James\OneDrive\EquationOfState\x64\Debug\EquationOfStat
e.exe (process 22540) exited with code 0 (0x0).
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